

525,696
Rec'd PCT/PTO 22 FEB 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
18 March 2004 (18.03.2004)

PCT

(10) International Publication Number
WO 2004/023668 A1

- (51) International Patent Classification⁷: **H04B 1/38**, H04M 1/00 (74) Agent: FALLON, Steven, P.; Greer, Burns & Crain, Ltd., 300 S. Wacker Drive - Suite 2500, Chicago, IL 60606 (US).
- (21) International Application Number: PCT/US2003/028076 (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 5 September 2003 (05.09.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/408,379 5 September 2002 (05.09.2002) US (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (*for all designated States except US*): THE REGENTS OF THE UNIVERSITY OF CALIFORNIA [US/US]; 1111 Franklin Street, Oakland, CA 94607-5200 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): CRUZ, Rene, L. [US]; 8058 Gilman Court, La Jolla, CA 92037 (US). SAN-THANAM, Arvind, V. [IN/US]; 9160-A Regents Road, La Jolla, CA 92037 (US).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: SCHEDULING METHODS FOR WIRELESS NETWORKS

(57) Abstract: The invention concerns routing, scheduling, and power control methods for single and multi-hop wireless networks. A multi-hop network is one in which source and destination nodes may communicate directly or through relay nodes. Nodes in single hop networks communicate without use of relay nodes. Embodiments of the invention may produce an optimal schedule to provide for the best-case goal for a given parameter. In a preferred embodiment, total power is the parameter and total power is minimized for the network. In another preferred embodiment, data throughput is the parameter, and throughput is maximized for the network.

WO 2004/023668 A1